AMENDMENTS TO THE CLAIMS

Please amend the claims as shown below. Please amend Claims 1 and 11. In addition, please cancel Claims 2-4 and 15-16.

1. (Currently amended) A separation system for use in removing contaminants from fluid comprising:

a condenser for receiving and condensing a contaminated gas, wherein the condenser also receives and increases the temperature of a contaminated fluid;

a phase reaction chamber for receiving the contaminated fluid from the condenser, wherein the phase reaction chamber comprises:

a distribution header and at least one atomizer spray nozzle for converting a the contaminated fluid to a contaminated mist;

a vacuum pump for providing a low energy, high vacuum environment in the phase reaction chamber, wherein the low energy, high vacuum environment provides a change of phase by separating the contaminated mist into a contaminated gas and liquid mist phase; and

a carrier air source for providing carrier air to the phase reaction chamber.; ~~wherein the low energy, high vacuum environment provides a change of phase by separating the contaminated mist into a contaminated gas and liquid mist phase.~~

2. (Cancelled)

3. (Cancelled)

4. (Cancelled)

5. (Currently amended) The separation system of Claim ~~2~~1, wherein the carrier air transports the contaminated gas from the phase reaction chamber to the condenser.

6. (Previously presented) The separation system of Claim 1, further comprising a water-air heater for equalizing the temperature of the contaminated fluid and the carrier air.

7. (Withdrawn) A method of removing contaminants from a contaminated fluid comprising:

converting the contaminated fluid to a contaminated mist;

separating the contaminated mist into a contaminated gas and a liquid mist in a low energy, high vacuum environment;

condensing the contaminated gas to a contaminated liquid, converting the liquid mist to liquid droplets, and collecting the liquid droplets.

8. (Withdrawn) The method of Claim 7, further comprising providing carrier air to assist in transporting the contaminated gas to a condenser.

9. (Withdrawn) The method of Claim 8, comprising preheating the carrier air to the temperature of the contaminated liquid.

10. (Withdrawn) The method of Claim 8, comprising using a vacuum to draw the carrier air and contaminated gas to a condenser.

11. (Currently amended) A separation system for use in removing contaminants from water comprising:

a condenser for receiving and condensing a contaminated gas, wherein the condenser also receives and increases the temperature of a contaminated fluid;

a phase reaction chamber for receiving the contaminated fluid from the condenser, wherein the phase reaction chamber comprises:

a distribution header and at least one atomizer spray nozzle for converting ~~a~~ the contaminated fluid to a contaminated mist;

a vacuum pump for providing a low energy, high vacuum environment in the phase reaction chamber, wherein the low energy, high vacuum environment provides a phase change by separating the contaminated mist into a liquid mist and contaminated gas;

means for converting the liquid mist to liquid droplets;

means for receiving the liquid droplets; and

a carrier air source for providing carrier air to transport the contaminated gas toward the vacuum pump.

12. (Previously presented) The separation system of Claim 11, wherein the carrier air passes over the means for converting the liquid mist to liquid droplets toward the vacuum pump.

13. (Previously presented) The separation system of Claim 11, wherein the carrier air passes through the liquid droplets.

14. (Previously presented) The separation system of Claim 11, wherein the separation system further comprises a water-air heater, wherein the water-air heater equalizes the temperature of the carrier air and the temperature of the contaminated fluid.

15. (Cancelled)

16. (Cancelled)